

## DOCUMENT RESUME

ED 471 663

TM 034 692

AUTHOR Garcia, Paul; Calhoun, David O.  
TITLE An Examination of the Correlates to Achievement on the California High School Exit Exam.  
PUB DATE 2002-04-01  
NOTE 14p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 1-5, 2002).  
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)  
EDRS PRICE EDRS Price MF01/PC01 Plus Postage.  
DESCRIPTORS \*Academic Achievement; Correlation; Curriculum Problems; \*Exit Examinations; Graduation Requirements; \*High School Students; High Schools; \*High Stakes Tests; State Programs; Student Surveys; Testing Programs; Urban Schools  
IDENTIFIERS Fresno Unified School District CA

## ABSTRACT

The California High School Exit Exam (CAHSEE), established in 1999, requires all high school students beginning with the class of 2004 to pass the CAHSEE to earn a high school diploma. A study was conducted in a large urban school district in central California of the first year of implementation of CAHSEE. The study gathered evidence about student attitudes toward the CAHSEE, the extent of classroom and student preparation for the test, and the effect of test results on subsequent student performance. Data used were extant CAHSEE and student databases, student survey results completed by 3,925 students (approximately 78% of ninth graders in the school district, and student focus groups at various schools. Findings suggest that this high stakes testing has contributed to increased test preparation, especially among students with limited English language proficiency. The student survey data also provide some evidence that for some students the curriculum has narrowed. Disparate achievement levels were found when white and nonwhite students were compared, and the small number of beginning English learners with passing CAHSEE scores raises the question of when high stakes tests are appropriate for students not proficient in English. Preliminary evidence does not support the idea that poor performance on the CAHSEE had adverse effects on students' academic grades. However, changes in school attendance were significantly related to number of test sections passed on CAHSEE. (Contains 3 tables and 11 references.) (SLD)

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## **An Examination of the Correlates to Achievement on the California High School Exit Exam**

Prepared by Fresno Unified School District  
Office of Research, Evaluation & Assessment

Paul Garcia, Ed. D.  
David O. Calhoun, M.A.

Paper presented at the Annual Meeting of the American Educational Research  
Association, New Orleans, April 1-5, 2002

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## **Introduction**

The California High School Exit Exam (CAHSEE) was established by Senate Bill 2X in 1999. The bill requires all high school students beginning with the class of 2004 to pass the CAHSEE to earn a high school diploma. The purpose of the exam is to improve student achievement by ensuring high school graduates can demonstrate competency in content standards for reading, writing, and mathematics. In the United States, 28 states require tests for graduation (Rivera and Stansfield, 2000). The CAHSEE was given for the first time on March 7, 2001 (reading and writing) and March 13, 2001 (mathematics). The test was optional for ninth grade students, however, all tenth grade students must take the test in 2002. An estimated 81% or about 400,000 ninth grade students took the test in California. Approximately 5,100 (80%) of all ninth grade students from Fresno Unified School District (FUSD) took the exam.

Under California Senate Bill 2X, English Learners may be deferred from having to pass the CAHSEE for up to 24 months and until they have received six months of instruction in reading, writing, and comprehension in English. After the minimum requirements are met, English Learners must meet CAHSEE requirements regardless of English language proficiency level. The potential implications of CAHSEE upon high school graduation warranted this preliminary study on the examination of student attitudes and preparation towards this high stakes test.

## **Purpose of study**

The increase in high stakes testing has been a central feature in the current reform in public education to raise achievement levels, improve school accountability, and close the achievement gap between historically under-represented minority students and their white counterparts (Linn, 2000). However, there is concern that increased high stakes testing may narrow the curriculum (Kohn, 1999), may be inappropriate for English Learners at low levels of English language proficiency (NCBE, 1997; August and Hakuta, 1997) and have adverse effects on students such as increased dropouts, retention, and tracking (Cuenca, 1991).

This report describes results of a study conducted in a large urban school district in central California on the first year implementation of CAHSEE. The purpose of this study is to gather evidence about student attitudes toward the CAHSEE, the extent of classroom and student preparation for the test, and the effect of test results on subsequent student performance. Three data sources were utilized in compiling the information in the report: (a) extant CAHSEE and student databases, (b) student survey results, and (c) student focus groups convened at various schools in FUSD.

## **Methodology**

The research questions addressed in this study are:

- What were student perceptions toward test preparation and performance on CAHSEE?

- What was the relationship between test preparation and student performance among English Learners with different primary languages and levels of English language proficiency?
- What effect has performance on CAHSEE had on subsequent achievement in school, as measured by grade point average and school attendance?

The CAHSEE student survey consisted of 17 items. The items addressed student and classroom preparation for the test, student concerns about passing the test, and the extent test content was covered in class. The CAHSEE student survey was translated into 5 major languages (Spanish, Hmong, Lao, Khmer, and Vietnamese) to increase survey responses among English Learners. The survey was distributed to seven comprehensive high schools and one continuation high school. Survey results provide descriptive information on student perspectives and school experiences related to CAHSEE.

Student focus groups were convened at four high schools to solicit feedback about the experience of taking the test. Two of the focus groups were conducted in Spanish and represented students with lower levels of English language proficiency. Focus group information is reported in the study to support survey results on student attitudes and concerns about CAHSEE. CAHSEE results were combined with student demographic and performance indicators to investigate aggregate and disaggregated correlations.

In this report, the English Language Development (ELD) level of English Learners was defined by school district benchmark profiles. Comparison of student ELD levels with results from a state required English language proficiency assessment (California English Language Development Test), yielded close and corresponding levels of English language skills. Large percentages of the same students were identified at early levels of English language proficiency on both assessments.

## Results

Results are divided into three sections: a) Descriptive post-test student survey results combined with the CAHSEE test scores, b) Comparison of test and survey results between English Learner and non-English-Learner students, and c) Initial effects of CAHSEE results on subsequent student performance.

### CAHSEE Student Survey Results

Table 1 summarizes student responses on the CAHSEE Student Survey given to all 9<sup>th</sup> grade students two weeks after the test. Only students participating in the CAHSEE exam were surveyed. Approximately 78% (3,925 of 5,017) of students returned a completed survey, which was scored on a Five-point scale, with “1” representing “None/Not at All” and “5” representing “To a Great Extent” for each item. Table 1 also indicates disaggregated results for students who passed or failed the language arts and mathematics sections of the test. Of the survey respondents, 2,199 (56%) passed the CAHSEE in Language Arts, and 1,362 (35%) in Mathematics.

Table 1  
9<sup>th</sup> Grade Student Responses on the CAHSEE Student Survey, 2001

Survey Item	% With a "4" or "5- To a Great Extent"		
	% of Total Students	% of Students who Failed	% of Students who Passed
How much time was spent in your <b>English</b> class preparing for the test?	44%	45%	43%
How much time did you spend on your own to prepare for the <b>English/Language Arts</b> test?	18%	24%	14%
How hard did you try on the <b>English/Language Arts</b> test?	81%	77%	84%
How much of the <b>English/Language Arts</b> test covered topics which you have had the opportunity to learn in school?	56%	45%	63%
After taking the test, how concerned are you now about passing the <b>Reading section</b> of the test before you graduate?	64%	70%	60%
After taking the test, how concerned are you now about passing the <b>Writing section</b> of the test before you graduate?	67%	71%	64%
How much time was spent in your <b>Mathematics</b> class preparing for the test?	47%	50%	40%
How much time did you spend on your own to prepare for the <b>Mathematics</b> test?	25%	30%	16%
How much of the <b>Mathematics</b> test covered topics which you have had the opportunity to learn in school?	59%	52%	70%
After taking the test, how concerned are you now about passing the <b>Mathematics</b> section of the test before you graduate?	65%	74%	51%
<b><i>If I had the chance during the test, I would have benefited from having...</i></b>			
...more time to complete the English/Language Arts test.	42%	57%	31%
...more time to complete the Mathematics test.	40%	51%	21%

Disaggregated survey results and student focus group comments will be summarized and analyzed to determine the extent of (a) student preparation in class, (b) test content was covered in class, and (c) student perception of success.

Focus group participants expressed concern about whether the CAHSEE would count as an official test. Some students completed the test believing it was only a “practice test” and would not count. Students were surprised to learn the test counted. Other students heard on the afternoon before or the morning of the test that results would be official. Deliberations of the California State Legislature on the eve of the test precluded advance notice for students. The late notification to students had an impact on preparedness for the exam.

Student survey items queried students on the degree of class preparation in English language arts and mathematics, and the extent test content was covered in class.

- *How much time was spent in class preparing for the test?*
- *How much of the test covered topics that you have had the opportunity to learn in school?*

Survey results support research that suggests English Learners experience some narrowing of the curriculum (Moran, 2000). Evidence is presented that English Learners experienced increased test preparation in class and were less likely to indicate test content in language arts was covered in school.

Preparation in class. Approximately 44% of students in language arts courses and 47% of students in mathematics courses indicated a substantial amount of test preparation in class by responding with a “4” or higher on the survey. Focus group students responded that while little specific preparation for the CAHSEE occurred in class, teachers emphasized the need to learn the curriculum for all forms of testing in the spring.

No apparent differences were found in test preparation in language arts classes between students who passed or failed the language arts section. In mathematics, a higher percentage of students who failed reported a great deal of class time preparation (50%) than students who passed (40%). The wide variation in course enrollment that exists more in mathematics than language arts classes, suggests differential curricula offered in mathematics may explain the findings. Specifically, some student populations may participate in instructional practices that focus more on test preparation than on well-rounded and standards-based instruction appropriate to course curriculum (Oakes, Gamoran, and Page, 1992).

For example, supportive evidence was found in this study that English Learners were more likely to report instructional time aimed at test preparation for CAHSEE. Results are presented for major language groups of English Learners. A larger percentage of English Learners than non-English Learners who passed the language arts portion of CAHSEE indicated preparation time was spent in class, non-English Learners, (40%), Spanish, (49%), Hmong (69%), Khmer (68%), and Lao (45%). A similar pattern of test preparation was found among students who passed the mathematics portion of CAHSEE: Non-English Learners (38%), Spanish, (49%), Hmong (55%), Khmer (39%), and Lao (54%).



The pattern was less obvious among students who failed the CAHSEE in language arts or mathematics: *Language arts*: non-English Learners (43%), Spanish, (41%), Hmong (55%), Khmer (48%), and Lao (61%); *Mathematics*: non-English Learners (46%), Spanish (51%), Hmong (68%), Khmer (68%), and Lao (60%). Results may be attributed to the large number of English Learners at early levels of English language proficiency (beginning English Learners) who failed the test and share a common curricular program that requires additional coursework in English Language Development. Students in the English Learner focus group felt teachers could not prepare students since ELD teachers did not know the contents of the test and Spanish language instruction was not conducive to preparation for an English language test.

Test content covered in school. Survey results also suggest non-English Learners were more likely to indicate CAHSEE test material was covered in school as curricular content. For example, non-English Learners passing the English language arts portion of CAHSEE were more likely to indicate the tested material was covered in school (non-English Learners, 67%; Spanish, 48%; Hmong, 61%; Khmer 48%; and Lao, 30%). Response differences were negligible among all language groups who failed the CAHSEE in English language arts.

About the same percentage of all language groups passing the CAHSEE in mathematics indicated the tested material was covered in school (Non-English Learners, 71%; Spanish, 63%; Hmong, 67%; Khmer, 71%; and Lao, 63%).

## **CAHSEE Achievement Differences**

This section examines the relationship of ethnicity and English language proficiency to achievement levels on CAHSEE. Determination of the achievement gap between white and ethnic/racial minority students is improved when test results are disaggregated for English Learners. English Learners are not a homogeneous group of students with common educational and historical experiences (Ogbu, 1988). Therefore, the data is disaggregated to examine the relationship of English language proficiency levels and ethnicity to achievement on CAHSEE. This analysis can inform educational policies that determine the high stakes testing of English Learners.

One of the goals of CAHSEE is to improve academic achievement among all students. However, English Learners were less likely than non-English Learners to pass the language arts (English Learners, 25%; non-English Learners, 61%) or mathematics (English Learners, 11%; non-English Learners, 37%) sections of CAHSEE. Passing rates were even smaller among beginning English Learners (language arts, 3%, mathematics, 4%). While disparate passing rates were found between white and ethnic/racial minority students, the achievement gap persisted even among students passing the CAHSEE. For example, a comparison of scaled scores among students passing the English language arts section, indicated white students scored significantly higher than Hispanic, African American, and Asian students ( $p < .05$ ). When English Learners were removed from the analysis to reduce language as a contributing factor to achievement, white students continued to out-perform Hispanic, African American, and Asian students ( $p < .05$ ). However, Asian students scored significantly higher than Hispanic and African American students ( $p < .05$ ).

A similar pattern was found among students passing CAHSEE in mathematics. Comparison of scaled scores indicated white students scored significantly higher than Hispanic, African American, and Asian students ( $p < .05$ ). When English Learners were removed from the analysis, significant differences continued to exist between white and both Hispanic and African American students. However, test score differences between White and Asian students were not significant, and suggests English language proficiency levels of some Asian students explains Asian student achievement on CAHSEE. After English Learners were removed from the analysis, Asian students outperformed Hispanic and African American students ( $p < .05$ ).

### **Language group membership**

CAHSEE achievement levels were compared for all language groups at higher levels of English language proficiency (advanced English Learners). While Lao students were more likely to pass CAHSEE in English language arts, no significant differences were found in mean scaled scores between language groups. A smaller percentage of Spanish language students (7%) passed the mathematics portion of CAHSEE compared to Khmer (16%), Lao (15%), and Hmong (17%) students. An independent samples T-test indicated Hmong students scored significantly higher in mathematics than Spanish language students ( $p < .04$ ).

### **Effect of CAHSEE Results on Student Success**

Research on the harmful effects of high stakes testing suggests students failing CAHSEE would experience decreased achievement levels. This section examines the relationship of CAHSEE student performance to academic grades and school attendance, subsequent to the exam. Preliminary evidence indicates students failing CAHSEE did not experience immediate deleterious effects on academic grades, however, changes in school attendance were related to CAHSEE performance.

Student concerns about test performance. Two weeks after taking CAHSEE, students were asked how concerned they were about passing each portion of the test (reading, writing and mathematics). A large percentage of students voiced great concern about passing the reading (64%), writing (67%), and mathematics (65%) sections of the test (rating a “4” or “5”). As indicated in Table 1, higher percentages of students who failed indicated concerns about passing, which validated their self-assessment on CAHSEE performance.

When asked what would happen if they did not pass the CAHSEE by grade 12, the following focus group comments were made:

I would not be able to go to college or have a good career.

I would have to go to adult school.

I would work harder.

If I don't pass by my senior year, I would rather just drop.

The government is putting too many rules. I don't feel comfortable. That's why people are dropping out, too many rules.



This section compares objective measures of student performance subsequent to passing or failing CAHSEE. California's addition of the CAHSEE as a requirement for a high school diploma represents a shift from previous expectations that focused solely on the accumulation of high school credits. For many students who find the CAHSEE a difficult test, the new requirement may create additional anxiety or pessimism and increase the risk of dropping out of school. While meaningful drop out figures will not be available for two years, other indicators of subsequent student performance can be examined from the semester following the administration of the CAHSEE. This section of the paper examines the effect of students' pass/fail status on subsequent grade point average (GPA) and school attendance.

CAHSEE results and GPA. A first semester GPA gain was computed for all students in the study (GPA 2002 minus GPA 2001). We postulated the effects of students learning their pass/fail status on CAHSEE in the fall of 2001 would have a differential effect on the GPA gain score. Further, we reasoned that previous academic achievement would mediate effects of failing CAHSEE: previously high achieving students would be able to handle the notice of failure more easily than previously low achieving students. Spring 2000 results from a standardized norm referenced-test, SAT-9 quintiles, were computed as indicators of previous student achievement. Table 2 summarizes findings for all students and for student pass/fail disaggregations.

Table 2  
Comparison of SAT 9 Quintiles to CAHSEE Student Performance

Student Group	Mean GPA Gain/Loss from 1 <sup>st</sup> Semester 2001 to 1 <sup>st</sup> Semester 2002 (NA: # Students < 30)		
	Overall	Passed CAHSEE	Failed CAHSEE
Language Arts Test: All Students w/ SAT-9 Scores	-.149	-.163*	-.156*
Reading Quintile 1 (Nat'l %ile 1 <sup>st</sup> to 19 <sup>th</sup> )	-.141	-.051	-.174
Reading Quintile 2 (Nat'l %ile 20 <sup>th</sup> to 39 <sup>th</sup> )	-.129	-.142	-.139
Reading Quintile 3 (Nat'l %ile 40 <sup>th</sup> to 59 <sup>th</sup> )	-.183	-.209	-.088
Reading Quintile 4 (Nat'l %ile 60 <sup>th</sup> to 79 <sup>th</sup> )	-.160	-.179	-.009
Reading Quintile 5 (Nat'l %ile 80 <sup>th</sup> to 99 <sup>th</sup> )	-.133	-.135	NA
Mathematics Test: All Students w/ SAT-9 Scores	-.147	-.143*	-.162*
Mathematics Quintile 1 (Nat'l %ile 1 <sup>st</sup> to 19 <sup>th</sup> )	-.116	NA	-.143
Mathematics Quintile 2 (Nat'l %ile 20 <sup>th</sup> to 39 <sup>th</sup> )	-.157	-.261	-.157
Mathematics Quintile 3 (Nat'l %ile 40 <sup>th</sup> to 59 <sup>th</sup> )	-.221	-.268	-.201
Mathematics Quintile 4 (Nat'l %ile 60 <sup>th</sup> to 79 <sup>th</sup> )	-.111	-.093	-.162
Mathematics Quintile 5 (Nat'l %ile 80 <sup>th</sup> to 99 <sup>th</sup> )	-.110	-.105	NA

\* Differences between means are not statistically significant at  $p < .05$  on an independent samples T-test.

Several findings emerged in the analysis, including:

- Our initial belief that failing the CAHSEE would have an overall adverse effect on GPA gain/loss was not found.
- Although differences are not statistically significant, in nearly every case the negative change in GPA is more pronounced for students who passed the CAHSEE than for those who failed. The one striking exception, is for students in SAT-9 Reading Quintile 1, where the students failing the CAHSEE had sharper drops in GPA than those who passed.
- For the group of students failing the Language Arts CAHSEE, the negative change in the GPA becomes progressively smaller as the student reading quintiles increase. Prior experiences with low test scores (SAT-9 Reading) combined with a CAHSEE failing score seem to have greater adverse effects on GPA than do prior higher test scores. No apparent trends were found for the Mathematics CAHSEE.

At least in the first semester subsequent to the initial administration of the CAHSEE, news of failure did not produce a corresponding drop in GPA that exceeded the GPA decreases among students who passed the test. When trends by SAT-9 quintiles are examined, the data supports an interpretation that knowledge of Language Arts CAHSEE failure is an additional discouraging bit of news for the student, with some corresponding subsequent drops in GPA. That this trend is evident for the CAHSEE Language Arts and not for Mathematics may speak to a more general belief in one's chances for success in Language Arts.

CAHSEE results and attendance. Attendance rate changes between 2000-01 and 2001-02 academic year (first semester) were computed for students completing CAHSEE. As noted above, we hypothesized that news of CAHSEE failure would have an adverse effect on the attendance rate in 2001-02. Initial inspection of the mean percentage change in attendance by the number of portions of the CAHSEE passed is provided in Table 3.

Table 3  
Mean Change in Percentage of Days Attended in 2000-01 and 2001-02 by the Number  
of CAHSEE Test Sections Passed

Number of CAHSEE Portions Passed (Language Arts and Mathematics)	Mean Change in Attendance %	
	Unadjusted*	Adjusted for Prior Achievement*
Both Test Sections Passed	-.52 (N=1340)	-.45 (N=1240)
One Test Section Passed	-1.61 (N=1382)	-1.52 (N=1228)
No Test Sections Passed	-2.15 (N=1815)	-2.20 (N=1509)

\* Differences significant at  $p < .01$

The negative mean numbers indicate the percentage of days attended in 2001-02 is lower than in 2000-01 regardless of the number of CAHSEE test sections passed. However, the decreased attendance is generally higher for groups with fewer test sections passed.

## Conclusion

Results in this study suggest high stakes testing of students on the CAHSEE has contributed to increased test preparation, especially among students with limited English language proficiency (English Learners). Non-English Learners were more likely to indicate CAHSEE test content was covered in school. This student survey data provides supporting evidence that for some students, the curriculum has been narrowed.

Comparison of test scores between White and ethnic/racial minority students passing CAHSEE indicates disparate achievement levels. Results suggest the goal of CAHSEE to close the achievement gap should apply not only to pass/fail differences among student groups, but also to differences in achievement for student groups that pass the test. The small number of beginning English Learners with passing CAHSEE scores raises the question about when high stakes tests are appropriate for students not proficient in English.

Preliminary evidence in this study does not warrant support that poor performance on CAHSEE had adverse effects on students' academic grades. However, changes in school attendance were significantly related to number of test sections passed on CAHSEE. The data suggests a longitudinal study of students failing CAHSEE may link changes in school attendance to decreased academic achievement or increased school dropouts.

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